



Issued May 11, 1916.

ALASKA AGRICULTURAL EXPERIMENT STATIONS.

C. C. GEORGESON, Agronomist in Charge.

Circular No. 1.

INFORMATION FOR
PROSPECTIVE SETTLERS IN ALASKA.

BY

C. C. GEORGESON,

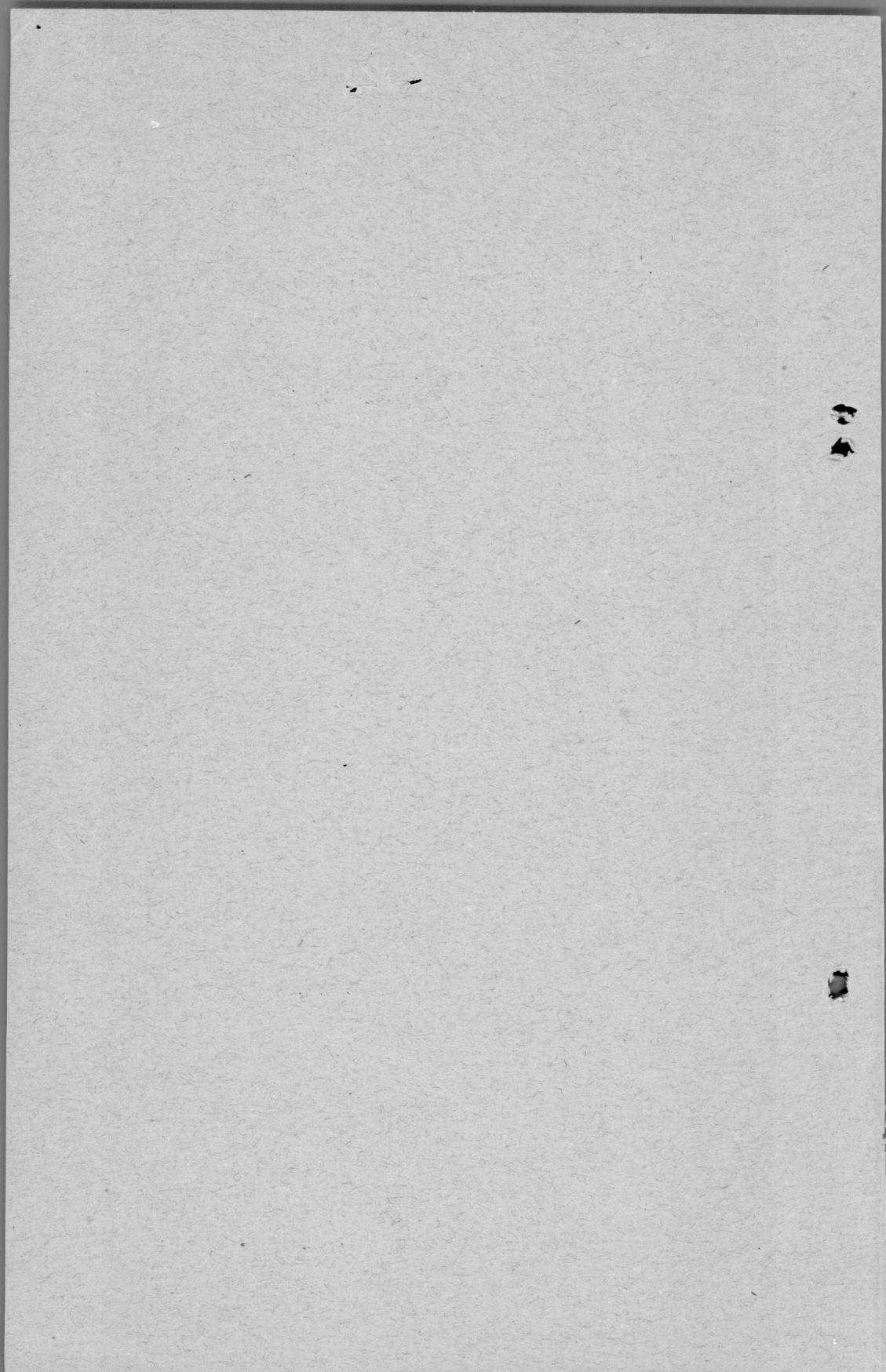
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"Circular (Alaska Agricultural Experiment
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**ALASKA AGRICULTURAL EXPERIMENT STATIONS, SITKA,
RAMPART, FAIRBANKS, AND KODIAK.**

[Under the supervision of A. C. TRUE, Director of the States Relations Service, United States Department of Agriculture.]

E. W. ALLEN, *Chief of Office of Experiment Stations.*

WALTER H. EVANS, *Chief of Division of Insular Stations, Office of Experiment Stations.*

STATION STAFF.

C. C. GEORGESON, *Agronomist in Charge, Sitka.*
J. W. NEAL, *Assistant in Charge, Fairbanks.*
M. D. SNODGRASS, *Assistant in Charge, Kodiak.*
G. W. GASSER, *Assistant in Charge, Rampart.*
J. P. ANDERSON, *Horticulturist, Sitka.*
T. D. CRIPPEN, *Assistant, Rampart.*
H. E. PRATT, *Animal Husbandman, Kodiak.*
J. CARL LANEY, *Assistant Dairyman, Kodiak.*

LETTER OF TRANSMITTAL.

ALASKA AGRICULTURAL EXPERIMENT STATIONS,
Sitka, Alaska, July 27, 1915.

SIR: I have the honor to submit herewith a manuscript entitled, "Information for Prospective Settlers in Alaska," which it is deemed desirable to publish at this time to aid in answering the many requests for information which are addressed to this office. The object in writing it has been not only to give information but to call the attention of prospective settlers to existing conditions in the Territory so that they may, in a measure, be prepared to meet these conditions.

The salient points in the homestead laws applying to Alaska and the game law and regulations have been given in brief. All reference to the mineral resources has been omitted.

I recommend that it be published as Circular No. 1 of the Alaska Agricultural Experiment Stations.

Very respectfully,

C. C. GEORGESON,

Agronomist in Charge of Alaska Experiment Stations.

DR. A. C. TRUE,

Director States Relations Service,

Department of Agriculture, Washington, D. C.

Publication recommended.

A. C. TRUE, *Director.*

Publication authorized.

D. F. HOUSTON, *Secretary of Agriculture.*

CONTENTS.

	Page.
Climate.....	5
Coast region.....	6
Interior climate.....	6
Agricultural areas.....	8
Character of the land.....	9
The soil.....	10
Where to locate.....	10
How to obtain a farm.....	11
Transportation.....	12
The chances for work and wages paid.....	14
Cost of living.....	15
What crops can be grown.....	16
Live stock.....	18
The brown bear.....	19
General information.....	20
Population.....	20
Judicial divisions.....	20
Land districts.....	20
National Forests.....	20
Telegraph and cable lines.....	21
Railroads.....	21
Schools.....	22
Game laws.....	22
Fisheries.....	25
The Matanuska Valley.....	26
Problems confronting early settlers in the Matanuska Valley.....	26

ILLUSTRATIONS.

	Page.
PLATE I. Scenes in the Matanuska Valley.....	28
II. Homesteads in the Matanuska Valley.....	28
III. Homesteads in the Matanuska Valley.....	28
IV. Stock raising in the Matanuska Valley.....	28
V. Map showing agricultural regions in Alaska.....	28

INFORMATION FOR PROSPECTIVE SETTLERS IN ALASKA.

This circular is designed to give prospective settlers in Alaska, and particularly homesteaders, information on subjects which will be of more or less vital interest to them. It is designed also to call their attention to many factors in the situation on which they should be informed before settling in a new and comparatively little-known territory.

It has been demonstrated, both at the Government experiment stations and by hundreds of settlers scattered over the country, that Alaska has agricultural capabilities of considerable range. Information as to this can be obtained in the annual reports of the Alaska Agricultural Experiment Stations, and that subject, therefore, is not dwelt on in this brief publication. Instead, an attempt will be made to answer as far as possible the questions which a prospective settler in the Territory would ask and which are addressed to the station in every mail.

Among these questions are many on the following subjects: Climate, agricultural areas, where to locate, how to obtain a farm, cost of transportation, labor market and wages paid, cost of necessities of life, what crops can be grown, live stock, school facilities, etc., etc.

To give comprehensive answers to all of the questions would far exceed the limits of this circular, hence the discussions on these subjects must be brief.

CLIMATE.

From the homesteaders' standpoint, information as to the climatic conditions is of paramount importance.

Speaking generally and briefly, Alaska has two climatic belts, known respectively as (a) the coast region and (b) the interior.

The Coast Range Mountains form the dividing line between the two belts. All that area which lies to the seaward of this mountain range is included in the coast region and all the area which lies to the northward of this range constitutes the interior. The difference between the two is this: The coast region has a comparatively mild winter climate, with cool summers and a heavy precipitation, which

conditions are due to the moderating influence of the Pacific Ocean; while the interior has cold winters, warm summers and light rainfall, due to the dominating influence of the land masses.

COAST REGION.

This belt extends from the southern boundary of Alaska, latitude $54^{\circ} 40'$, longitude 131° W., to the Seward Peninsula, which lies at the entrance to the Arctic Ocean. There is great variation in precipitation throughout this belt, as is shown by the figures given below. Beginning with the most southern place for which there are records and following the coast line up to Nome, the average annual precipitation and also the extremes of temperature from the warmest to the coldest during the same period of years may be noted.

Average annual precipitation and extremes of temperature at various places in the coast region.

Locality.	Length of record.	Average annual precipitation.	Extremes of temperature.	
			Maximum.	Minimum.
	Years.	Inches.	$^{\circ}$ F.	$^{\circ}$ F.
Ketchikan.....	5	160.56	81	0
Juneau.....	16	74.09	86	-10
Skagway.....	12	22.92	93	-21
Killsnoo.....	12	46.18	83	-7
Sitka.....	16	83.68	87	-2
Orca.....	8	163.08	90	2
Valdez.....	5	54.81	84	-6
Seward.....	7	59.20	85	-12
Kodiak and Wood Island.....	15	56.83	82	-8
Coal Harbor.....	13	48.57	91	-19
Dutch Harbor.....	10	65.77	76	7
Nome.....	8	13.81	78	-38

It will be noted that both Ketchikan and Orca, although many hundred miles apart, have an annual precipitation of over 160 inches, while intervening places have much less, and again that the precipitation at Nome is only 13.81 inches. The heavy precipitation at Ketchikan, Juneau, Sitka, and Orca is due to local conditions. Prevailing wind currents impinge against high mountains, which in turn cause the precipitation of rain and snow.

INTERIOR CLIMATE.

As compared with the coast region the interior is noted for a light precipitation, cold winters, and comparatively warm but short summers.

Average annual precipitation and extremes of temperature at various places in the interior.

Locality.	Length of record.	Average annual precipitation.	Extremes of temperature.	
			Maximum.	Minimum.
	<i>Years.</i>	<i>Inches.</i>	<i>° F.</i>	<i>° F.</i>
Rampart.....	10	10.07	96	-66
Fairbanks.....	10	13.00	89	-65
Copper Center.....	10	9.86	96	-74
Eagle.....	9	10.52	91	-68
Tanana.....	11	10.86	90	-71
Allakakat.....	8	11.70	87	-66

The noticeable feature, as compared with the coast region, is the much lighter precipitation of rain and melted snow. While a drought is unknown in the coast region it is not unusual to suffer from a period of dry weather in the interior. This occurs in the latter part of May and during the month of June, and sometimes this drought is so severe, as in 1914 for example, that it interferes with the growth of grain crops.

In some regions of the interior, particularly in the Copper River Valley, irrigation would be a decided advantage.

It is further to be noticed that the heavy precipitation of the coast region is conducive to a luxuriant vegetation. A heavy growth of grass is found wherever it is not crowded out by tree growth. The heavy rainfall enables spruce, hemlock, and cedar to attain large sizes and to maintain a foothold on the steep mountain sides where there is but little soil. From the southern boundary to Prince William Sound, timber is the leading form of vegetation; while from the sound to the Seward Peninsula, grass, liberally interspersed with herbaceous plants and small bushes, takes the place of the forest. All forms of hardy garden vegetables thrive well in this belt, but grain growing is not a success. The rains keep grain crops green and growing beyond the period when they ought to mature, except in rare seasons drier than normal, and the fall rains usually prevent the farmer from saving his grain after it has matured. Except in a few limited areas, as for example in the Haines country, where the rainfall is lighter than is normal to the region, grain growing can not be made a success in this belt.

In the interior, on the other hand, the growth of grasses, as well as of grain crops, is not so luxuriant, but more nearly approaches that of normal crops of grass and grain in the States; and it is rare that the fall rains interfere with the saving of the crops, though that does happen occasionally.

Continued rains in the coast region interfere, not infrequently, with farm work. On the other hand, extreme cold weather in the

interior, where the temperature sometimes falls to 65 degrees below zero, makes life out of doors, both for man and beast, uncomfortable, not to say impracticable, but these periods of extreme cold are of brief duration. And it is further to be noted that they can not affect farm work to any noticeable extent, because there is no out-door farm work to be done at that time of the year. The summers are sometimes uncomfortably warm in the interior—the temperature at Rampart has frequently reached 96 degrees, but these hot spells are also of short duration.

The precipitation above referred to includes both rainfall and melted snow, but snowfall varies greatly from year to year, as well as with the locality. In Prince William Sound, for instance, the snowfall is usually comparatively heavy, reaching at times as much as 10 feet or even more during the winter; but in southeastern Alaska, on the other hand, there is comparatively little snow. The writer has experienced several winters at Sitka when there has been less than a foot of snow on the ground at any time.

In the interior the snowfall varies in like manner with local conditions. At Rampart and Fairbanks the normal snowfall is about 3 feet. Snow begins to fall in October and gradually accumulates during the entire winter until the total amount measures between 3 and 4 feet. There is often a thaw in January, which never lasts long enough, however, to melt the snow from the ground. A comparatively heavy snowfall is a decided advantage to the farmer because it protects his winter crops from the effects of extremely low temperatures.

From the standpoint of health the Alaska climate is exceptionally favorable. The air is pure and bracing. The winds sweep over the sea, virgin forests, or snow-covered mountains. They carry no contaminating disease germs. The native Indians, due to their insaniary modes of life, suffer from tuberculosis and from an occasional epidemic of smallpox; but the white population is more exempt from such diseases as pneumonia, grippe, and typhoid than in the States. Men who are much exposed sometimes contract rheumatism, and stomach troubles occasionally result from a too prolonged unvaried diet of canned foods.

AGRICULTURAL AREAS.

Nearly all the agricultural land in the Territory is located in the interior, and the principal areas are found in the Yukon Valley, the Tanana Valley, the Kuskokwin Valley, the Susitna Valley, and the Copper River Valley. (See map.)

There is another considerable body of agricultural land north of the Tanana River, between the Tanana and Fortymile, and more

particularly along the South Fork of the Fortymile River. It has been estimated to contain 750,000 acres. This will probably prove to be one of the most productive regions of Alaska when developed. This large area has, as yet, no transportation facilities worthy the name. The Bates Rapids in the Tanana River, some distance beyond Fairbanks, are of such a nature that only small and very powerful boats can pass them; and due chiefly to this cause, there are only very few boats that pass to the upper Tanana.

The west half of the Kenai Peninsula has also a considerable area of agricultural land, but aside from this there is comparatively little in the coast region, and what land there is that can be readily made available for cultivation is located in hundreds of little valleys at the head of bays and inlets and in pockets of the mountains. It does not form large areas such as are found in the valleys of the interior.

Surveys of these agricultural lands have been begun, but until they are finished there will be no accurate knowledge with regard to the amount of land that can be utilized for agricultural purposes. It has been estimated that in the whole Territory there are about 100,000 square miles which can be made available for tilling and for grazing purposes. The agricultural area of Alaska is, therefore, as large as the combined areas of the States of Pennsylvania, Maryland, Delaware, New Jersey, Connecticut, Massachusetts, Vermont, and New Hampshire; and it should be capable of supporting a population nearly equal to that supported by the agricultural products of those States, for considerable areas, comprising mountains, lakes, and waste land, found in those States and unsuited to production are included in this comparative estimate.

CHARACTER OF THE LAND.

It must not be understood that Alaska has this area available for cultivation. The estimate includes also much land, perhaps 50,000 square miles in all, which will have little value except for grazing purposes. Alaska is a hilly country and only the gentler slopes of these hills are arable. It should also be stated that there are no prairies in Alaska such as characterize the Middle West. Practically every foot of soil has to be cleared before it can be put under cultivation. In the coast region, as far west as Cook Inlet, there is a heavy growth of timber, and ordinarily such timber land is too expensive to clear at this stage of development. A century hence the settler may encroach upon the forest in this region. West of Cook Inlet there is comparatively little timber, but, on the other hand, there is a wealth of small bushes and grass, and this region will therefore be chiefly suited to stock raising.

The interior valleys are covered with timber and bushes, but of a much lighter growth than are found in the coast region. Clearing

is, therefore, easier. In the interior the principal timber is the black spruce, cottonwood, and on the hillsides birch, the spruce very largely predominating.

The settler must fix this fact in his mind, that wherever he goes he must clear the land of a more or less heavy growth of timber and bushes before it can be made ready for cultivation.

THE SOIL.

The soil is rich only in places where land has been built up by silt deposits. Taking Alaska soils as a whole, they must be classed as rather poor from a crop-producing standpoint. Geologically speaking, Alaska is a young country. The ice cap, which at one time covered the continent as far south as Ohio, remained in these northern latitudes perhaps thousands of years after it had disappeared from the more southern latitudes. Remnants of this ice cap still remain in the glaciers and on the ice-covered mountains which traverse the Territory in various mountain chains. That portion which is now free from ice, including the agricultural areas, has therefore not had time to develop a soil by the growing up and decay of vegetation, as has been the case in the States.

In many places gravel is found near the surface, where it was deposited by the torrents created by melting snow. This is the case, for instance, throughout large regions of the Copper River Valley, and while a foot or two of soil can produce agricultural crops, such shallow soils are not inherently rich and must be fertilized to maintain their productivity.

Another drawback to shallow soils is that they drain too readily. The rainfall in the interior is light, and the gravelly subsoil drains off the rainfall so quickly that crops frequently suffer from dry weather. This has been found true particularly in the Copper River Valley. Of course this condition can be remedied by irrigation.

WHERE TO LOCATE.

Nearly all inquirers for information about Alaska want to be advised as to the "best" place to locate. This is a difficult question to answer. In fact, there is no such thing as a "best" place. There are several desirable regions, and the homesteader will have to choose for himself that which he prefers.

Undoubtedly, the Matanuska Valley and the region tributary to the projected railway from Seward to Fairbanks will be settled first by reason of the improved transportation facilities. The region about Fairbanks has already been settled by many homesteaders who were attracted there by the local market afforded for their produce by the towns and mining camps.

The whole stretch of the Tanana Valley, at least from Fairbanks to the junction of the river with the Yukon, affords fair transportation facilities during the summer. The same holds true of agricultural land on the Yukon. During four months of the year there are fair facilities for the transportation of produce up and down the river. Railways have a very decided advantage over river navigation in that they can be operated throughout the year, and such transportation will, undoubtedly, be a spur to settlement.

The Copper River & Northwestern Railway affords transportation to the Copper River Valley and the Chitina Valley. The latter has some good agricultural land.

Transportation and markets are the main determining factors in the settlement of any given region. The prospective homesteader should also consider the advantages to be gained by locating near other homesteaders, because every settlement will in time be provided with stores, churches, schools, and other indispensable features of community life.

HOW TO OBTAIN A FARM.

Farms on the public domain in Alaska can be acquired only in two ways: By homesteading the land under the homestead laws applicable to Alaska, or by locating homesteads by the use of soldiers' additional homestead scrip. The latter method will probably not be used by farmers for the reason that scrip is becoming scarce and correspondingly expensive.

The general homestead laws were extended to Alaska, with certain modifications, by the provisions of the act of March 3, 1903 (30 Stat., 1028). Agricultural lands lying within the National Forests of Alaska may be entered only under the provisions of the act of June 11, 1906 (34 Stat., 233), and acts amendatory thereto. Intending settlers should apply either to the General Land Office, Washington, D. C., to the Juneau land office, Juneau, Alaska, or to the Fairbanks land office, Fairbanks, Alaska, for copies of the law applicable to the unreserved public domain, or to the Forest Supervisor, Ketchikan, for copies of the act of June 11, 1906.

It is impracticable to quote the law in full here. There are many points in the law which a settler should understand. Its general features are as follows:

(1) Any person who is qualified to enter a homestead under the general public-land laws may locate 320 acres of land in Alaska, provided, however, that if the location is made within a National Forest, under the provisions of the act of June 11, 1906, he can locate only 160 acres. The land so located must be agricultural land; that is to say, mineral-bearing land can not be taken up for agricultural purposes under the homestead law.

(2) The location must not encroach upon Government reservations or mission sites, nor can lands on which there are hot springs be located for homestead purposes.

(3) The homestead should be laid out in rectangular form, and the lines should run due north and south and due east and west. If on surveyed land, the lines are of course already established; but on unsurveyed land the homesteader must bear the expense of the survey, and such survey must be made by a United States deputy land surveyor, and the survey must be approved by the authorities of the General Land Office.

The homestead must not exceed 1 mile in length, and when it is located on navigable water it must not exceed 160 rods along the shore of such navigable water; and further, on navigable waters, a homestead can not be located nearer than 80 rods to an existing claim; that is to say, the law reserves a space of 80 rods between homesteads on navigable waters so as to make access to such waters available to the general public.

(4) The locator must establish his residence on the land within six months from the date of location; during the second year, one-sixteenth of the area of the homestead must be brought under cultivation; and during the third year, one-eighth of the whole area must be brought in cultivation. The fact that the homesteader uses the land for meadow and pasturage is not accepted in lieu of cultivation. The land must be broken and crops must be raised upon it.

(5) The homesteader can obtain leave of absence from his residence on the homestead not to exceed five months in any one year. This provision makes it possible for him to earn money by work elsewhere. At the end of three years from the date of location, and up to five years, patent may be applied for.

(6) A homesteader may acquire title to 160 acres by the process known as "commutation of homestead entries." He must, in that case, show that he has established and maintained his residence upon the land for at least 14 months continuously, and must have put the required area under cultivation. These conditions complied with, he must pay for the land, at a rate fixed by the General Land Office, of not less than \$1.25 nor more than \$2.50 per acre.

For further information see Circular No. 414, issued by the General Land Office, Department of the Interior, Washington, D. C., entitled "Suggestions to Homesteaders and Persons Desiring to Make Homestead Entries."

TRANSPORTATION.

The cost of transportation should be considered by the intending settler. Passenger rates and freight rates in Alaska are high. He should communicate with several steamship companies which operate

in Alaska and ascertain the cost of the trip before he starts; and if he wishes to ship household furniture, utensils, implements, or domestic animals he should be sure that he knows what it will cost him to land them at the desired port.

If he goes into the interior, the cost of transportation will, of course, be greatly augmented. If, for example, he seeks to settle in Tanana Valley, he will probably go to Skagway, take the train from Skagway to White Horse over the so-called White Pass route, and from White Horse he will take boat to Dawson, Yukon Territory. Here connection is made with boats going down the river to American territory. From Dawson, he goes to Tanana and thence up this river to the location of his choice.

There is some good land in the neighborhood of Eagle, the first American town after leaving Dawson, but only a few settlers have located at this point. There are tracts of agricultural land at several places along the Yukon, but as yet no settlers have been drawn to them. At Tanana there is a considerable settlement, and some farmers are located in the region. Following up the stream of the Tanana one passes through an extensive valley of agricultural land, but as yet there are no farming settlements until Fairbanks is reached, 267 miles from the mouth of the river.

The trip from Seattle to Fairbanks by that route is a little over 2,500 miles. The passenger fare varies, but in 1915 it exceeded \$100, and the lowest freight rate that the writer has heard of is \$53 per ton. The fare for an animal is about the same as for a person. The rates vary from year to year, and there is no attempt here to give exact figures. The object of these figures is to call the settler's attention to the fact that it is a very expensive process to travel and to ship commodities of any kind in Alaska.

The Tanana Valley can be reached by going from Seattle to St. Michael, then taking boat up the river to Tanana, and transferring at that point to a Tanana River boat. There has been but little traffic by that route during the last two years. Since American river transportation companies sold out to Canadian concerns the effort has been to force travel over the railway and down the river to Tanana. Formerly large river steamers were run from Dawson to St. Michael, and they afforded excellent accommodation for travel on the lower river, but since the change the boats have either been withdrawn or they run so irregularly that it is difficult to connect with ocean steamers at St. Michael, and both passenger and freight traffic has been routed via the White Pass Railway and connecting river boats.

The Matanuska and Susitna valleys can be reached by boat from Seattle direct to Knik Anchorage, whence the Government railway is building through these valleys.

The Copper River Valley can be reached, first, by taking boat to Cordova and thence via the Copper River and Northwestern Railway to Chitina; second, by taking boat to Valdez and following the Government wagon road from Valdez to Copper Center, some 105 miles inland. The latter route continues all the way to Fairbanks, a distance of 367 miles. In wet weather, however, it is not always passable for team and wagon. In good weather it can be traversed by automobiles, and of course by teams, the whole distance.

There are as yet no white settlements in the Kuskokwim Valley beyond a few missionary stations and some scattered prospectors' cabins. The valley is reached at the present time by boat around the Alaska Peninsula and up to the Kuskokwim Bay. Going direct from Seattle to Bethel the distance is about 2,200 miles, but following the Alaska coast the distance is over 3,000 miles. Owing to the great distances and cost of transportation, the Kuskokwim Valley is not likely to be settled by farmers until rich mineral finds shall have caused the establishment of settlements which will afford home markets for farm products.

THE CHANCES FOR WORK AND WAGES PAID.

In most places where labor is employed there are more men who want jobs than there are jobs to be had. At the present time most of the labor employed in Alaska is engaged in mining. In the several large mines near Juneau, for instance, there are probably some 4,000 men employed. Some years ago, when placer mining was at its height, particularly in the Fairbanks district, thousands of men were employed there at good wages, but the placer ground in this and other similar districts is in a large measure worked out.

Machinery has in many cases displaced hand labor and, therefore, decreased the number of men engaged in mining. There are of course many men employed yet in the Fairbanks, Ruby, and Iditarod districts and at scores of smaller camps scattered over the Territory, but the influx of labor has more than kept abreast of the demand. Wages have been, therefore, on the decline in mining camps and, in like manner, in other industries. There is nowhere any hard and fast scale of wages for all kinds of labor, but in general the wages paid in the interior are higher than the wages on the coast; and the wages paid in placer mining, especially on rich ground, are higher than the wages paid in hard-rock mining.

In the mining camps of the interior the maximum wage paid has been \$7.50 per day, not including board. From this it scales down according to the nature of the work to \$5 a day, or even less.

The largest employer of labor in Alaska at the present time, and this will perhaps hold true for several years to come, is the United States Government. The laborers are employed in the construction

of the Government railway, but it is understood that Alaskans are to have preference in employment, and the papers published on Puget Sound, as well as newspapers in Alaska, have warned the public not to crowd to this district in too great numbers, as it would be impossible to give work to all who apply.

There are as yet but few laborers employed in agriculture. Few of the homesteaders have money to hire labor and, therefore, have to depend on their own efforts for the clearing of their land and the erection of their buildings. So far as the writer knows, the Fairbanks Experiment Station is the largest farm in the Territory. It has 100 acres under plow. Up to the present year the wages for common labor at this station have been \$7.50 a day of eight hours. At the present time the wages paid are \$6 a day for eight hours' work, and, of course, this is for day labor only, hired as it may be needed.

The foregoing is only a brief general survey of the labor situation. As development progresses there will, of course, be more and more demand for men to do the work. Any young able-bodied man who is willing to work at anything he can find to do can, it is safe to say, find work somewhere in Alaska, so that he not only can make a living, but if he is of a saving disposition he can lay something by.

The question is often asked, Can the homesteader who locates in Alaska find opportunities to earn enough during the period the law allows him to be absent from his homestead to support him until he can begin to market his crops? This will depend chiefly on the man, but in most instances the question can be answered in the affirmative.

COST OF LIVING.

There is probably no region in which the actual cost of the necessities of life vary so greatly as it does in Alaska. There are places in the remote interior to which it costs a dollar a pound to transport provisions from tidewater; consequently, the consumer must pay this freight rate in addition to the actual value. At other places in the coast towns, particularly those nearest Puget Sound cities, provisions can be obtained at a comparatively small advance on the prices in Seattle.

The prices charged at restaurants are not altogether a true index of the cost of food supplies. There are places in Fairbanks where one can get a meal for 50 cents and a better one for 75 cents; but he can also pay in the same town \$3 or \$4 for a meal not vastly superior, except in the style of service.

A very large proportion of the men in Alaska do their own cooking, and under those circumstances they usually confine themselves to substantial but very plain fare, in which bacon and ham, beans, and sour-dough bread are the leading articles of diet. Under such

conditions a man can live on \$1 a day at almost any point in the interior except very remote mining camps, and for about 50 cents a day in the coast regions. The prices for provisions in Alaska have shown a downward tendency, and as the country settles up the cost of living logically may be expected gradually to decrease, and in like manner wages until they are adjusted on an equitable basis, governed chiefly by the supply and demand for labor.

Building materials are high in all parts of Alaska. Common rough lumber can be bought for about \$14 per thousand board feet in southeastern Alaska, and there is a gradual increase in price along the coast as one goes westward, the cost usually being increased by the freight rate per thousand board feet from Seattle to the place of consumption.

At Kodiak lumber from native timber can usually be bought for about \$25 per thousand board feet, while lumber brought from Seattle costs from \$28 to \$30 per thousand. Dressed lumber is correspondingly higher. In the interior, where lumber can be bought at all, the price ranges from \$40 to \$50 and even \$75 per thousand board feet, and that is for lumber cut from the small timber grown in the interior. The boards are usually not more than 8 or 9 inches wide.

Corrugated galvanized iron is extensively used for roofs throughout the interior; also for siding and even for partitions in barns and warehouses. All things considered, it is perhaps the most economical building material that can be used. At Seattle corrugated galvanized iron, 26 gauge, can be bought for \$4.50 per hundred square feet. At Fairbanks the same iron will cost from \$6.50 to \$7.50, or more, per hundred square feet.

Nails, paint, builders' hardware, etc., are practically twice as expensive as the same articles on Puget Sound. Lime, cement, brick, and terra cotta piping cost from two to three times as much as the same article in Seattle. These prices apply only to the larger towns where there is competition among merchants. In small, isolated, out-of-the-way places there is no fixed price on anything. The prices are governed wholly by the available stock and by the necessity of the purchasers.

The cost of furniture, household utensils, clothing, and nearly everything a family will need is increased above Puget Sound prices by the freight and by the dealer's profit.

WHAT CROPS CAN BE GROWN.

This question is of course one that interests every homesteader. In general terms it can be answered by saying that all the hardy grain crops, most of the cultivated grasses, and all of the cultivated root crops can be successfully grown in Alaska. That is to say, they can be grown in certain regions.

The Tanana Valley, the Matanuska Valley, most of the Yukon Valley, the Copper River Valley, the Susitna Valley, and the Kuskokwim Valley will all produce grain crops. Among these grain crops barley takes first place; oats second, and winter rye third, and then spring wheat and winter wheat.

Corn can not be grown anywhere in Alaska. Certain small, rapid-growing varieties have been matured in favorable seasons at Haines, Alaska, but this is unusual, and very many attempts to grow corn at the agricultural experiment stations in the interior have invariably been failures.

Alaska is not a wheat country. Certain varieties of spring wheat have been grown and can be matured in favorable seasons in all of the interior valleys, but wheat does not do its best in these far northern latitudes. The experiment stations are engaged in developing varieties of spring wheat which shall mature in a shorter period of time than those now grown in the States or in Canada. Early varieties of barley can be matured everywhere in normal seasons. In certain regions and in certain seasons when the summers are wet and cold, even barley may fail, but this is rare; and to obviate this trouble the experiment stations have developed hybrid barleys that mature in a shorter season than any variety cultivated in the States. Oats can, in like manner, be grown in any part of the Territory, but oats require from 10 to 12 days longer in which to develop than barleys do, and in certain localities, subject to early fall frosts, barley may ripen when the oat crop is killed before it is fully matured. Hardy winter wheat can be matured in seasons when the snowfall is not less than $2\frac{1}{2}$ feet deep. When the snowfall does not reach that depth a severe winter may kill the wheat. It is rarely the case, however, even under the most favorable circumstances, that there has been more than a 50 per cent stand of winter wheat in the spring. Winter rye, on the other hand, will stand a greater amount of cold weather and will survive and mature a crop when the snowfall is only 18 inches deep.

Buckwheat has been grown for many years at the interior stations. Late blossoms are always caught by frosts because buckwheat blooms for a long time; but the earliest blossoms always mature, and buckwheat will perpetuate itself from year to year from seeds that shatter in the process of harvesting.

Red clover has never survived the winters in the interior even under a thick blanket of snow, but white clover will survive for years.

Certain hardy yellow-flowered varieties of alfalfa, introduced from Siberia by Prof. N. E. Hansen, of the South Dakota Experiment Station, who was employed by the United States Department of

Agriculture to search for hardy species of alfalfa, have survived and promise to be of untold value for Alaska. At Rampart Station, in latitude 65° 30' N., it matures seed freely, and it is only a matter of time when enough seed will be produced to seed large portions of the interior suited to alfalfa culture.

Of the tame grasses, all will grow, but none of them do so well as smooth brome grass (*Bromus inermis*). This is the grass par excellence, both for hay and pasture, for interior Alaska. Field peas and vetches can also be successfully grown wherever grain crops are grown.

The foregoing applies to the interior. In the coast region the climatic conditions differ so widely that the same crops can not be grown with equal success. As already explained, the rainfall is so great in the coast region, and particularly during the latter part of the summer when grain crops mature, that growth is prolonged much beyond its normal season. In normal years the rainfall begins to increase by the middle of August, the period during which grain crops mature. This is accompanied by a fall in temperature, and grains that are not already ripe have but little chance to mature. There may be large heads of plump grain, but the grain remains soft because it never dries out. Moreover, the grain plants sprout from the roots in wet seasons all through the summer, and by September 1 nearly every plant, whether barley or oats, wheat or rye, will have heads in all stages of development.

These conditions suggest that the coast region is more particularly suited to the production of cattle feed, and the writer predicts that in the future large quantities of grain will be grown for silage on which to feed stock through the winter. These same conditions are also conducive to a luxurious growth of grasses and clovers. Red, white, and alsike clovers all do well almost anywhere in the coast region, but alfalfas, on the other hand, have so far not been a success. Peas, vetches, root crops, kale, etc.—in short, every form of hardy feed stuff—can be grown with marked success throughout this region, and the same holds true of all sorts of vegetables. The coast region of Alaska is therefore preeminently adapted, first, to market gardening, for which the numerous small tracts at the base of the mountains can be utilized; and, secondly, to stock raising and dairying, for which the larger areas are adapted.

LIVE STOCK.

Cattle have been kept at Kenai, on the Kenai Peninsula, and at the settlement of Ninilchick ever since the Russians were the owners of the country, but these cattle deteriorated by inbreeding and by the lack of proper selection. Shortly after work was begun at the Kenai Experiment Station, in 1899, a few head of cattle were purchased

from this native stock, and experiments in dairy practice were undertaken in a small way. The cows were small and inferior milkers, and it soon became evident that nothing of value could be developed from this stock.

After due consideration of the merits of the various available breeds, it was finally decided that the Galloway was better adapted to the cold, rainy climate than any other known breed, and a few head of this breed were purchased in 1905 and brought to the Kenai Station. They did well, and other purchases were made. All were maintained wholly on the native forage. They were pastured from the beginning of May until late in October. In winter they were fed on hay and on silage made from the grass, for haymaking is often precarious in this region, owing to much cloudy weather and frequent rains.

The snowfall in winter at Kenai averages from 3 to 4 feet, and it is therefore necessary to provide a good stock of winter feed. In the spring of 1908 the Kenai Experiment Station was closed and the cattle transferred to Kodiak, where the grazing season was longer, and where the shipping facilities were better.

Since then the Galloway herd has increased normally, and as fine individuals have been developed as can be found anywhere in the States. What can be done at Kodiak and Kenai can be done anywhere along the coast and on the islands where suitable pasture can be found.

Sheep can, in like manner, be successfully reared in this region, but only the long-wooled breeds should be selected. The short-wooled breeds, and especially the Merinos, are not adapted to the climate. It rains often. The short, close wool holds the water like a sponge, and the sheep are weighted down so that, at times, they can not get up when they lie down. The long-wooled breeds, on the other hand, shed the rain, and they are, moreover, heavier boned and have sturdier constitutions. There is no doubt but that large flocks of long-wooled sheep can be maintained in scores of places throughout the coast region of southwestern Alaska.

THE BROWN BEAR.

The brown bear is, unfortunately, a serious menace to stock raising in southwestern Alaska. He is protected by law during the summer season, the only time when he can be hunted. The exportation of pelts is prohibited except by the payment of large fees. The native hunters can not pay these fees and have, therefore, no incentive to hunt the bear during the season when the law permits them to do so, and as a consequence bears have increased in number during the last few years. In the fall of 1914 brown bears killed

three-fourths of the sheep and several head of cattle belonging to the experiment station at Kodiak. Presumably this condition will in time be remedied.

GENERAL INFORMATION.

POPULATION.

The last census taken, that of 1910, showed a population in Alaska of 64,356, of which 36,347 were whites and 28,009 were Indians and others. There has undoubtedly been a considerable increase in the white population since then and probably a decrease in the Indian population.

JUDICIAL DIVISIONS.

For judicial purposes the Territory of Alaska is divided into four divisions known by numbers.

Division No. 1 is all that part of Alaska lying east of longitude 141° W., comprising all of southeastern Alaska and the coast region as far west as Cape St. Elias. The headquarters of this division are at Juneau.

Division No. 2 comprises western Alaska north and west of the Kuskokwim River. The headquarters of this division are at Nome.

Division No. 3 has its headquarters at Valdez, and comprises all of the region from longitude 141° westward to the Aleutian Islands and as far north as the Kuskokwim River.

Division No. 4 has its headquarters at Fairbanks, and comprises the greater portion of the region generally known as the interior, running north to the Arctic Ocean.

LAND DISTRICTS.

There are three public land offices in Alaska, located respectively at Juneau, Fairbanks, and Nome. The officials at each office are a register and a receiver, whose duty it is to pass upon homestead applications. Inquiries on land matters concerning their respective districts should be referred to them.

There is one surveyor general for the whole Territory of Alaska whose office is at Juneau.

NATIONAL FORESTS.

The greater portion of the forests in the coast region is included in the Tongass and Chugach National Forests. These National Forests are under the jurisdiction of the Forest Service of the United States Department of Agriculture. The forest supervisor who has

local charge of these reservations has his headquarters at Ketchikan, Alaska.

Settlers and farmers may take timber from these forests for personal use, without formal permit and free of charge, in amounts not exceeding 20,000 feet of lumber, board measure, or 25 cords of wood in any one year, but when the timber is wanted for commercial purposes permission to cut it must be obtained from the forest supervisor and a charge is made for the timber so appropriated.

TELEGRAPH AND CABLE LINES.

The telegraph lines in Alaska are owned by the Government, and are under the supervision of the War Department. The main cable has been laid between Seattle and Sitka, where the main cable office is located. From Sitka cables are laid to Juneau, Haines, Ketchikan, and westward to Cordova, Valdez, and Seward. The telegraph line connects the cable office at Valdez with Fairbanks in the interior, and it reaches the more important points throughout that region. These cable and telegraph lines are supplemented by several wireless stations. The wireless stations on the coast are under supervision of the Navy Department, while those in the interior are, like the telegraph lines, operated by the War Department.

Private messages are sent over these various lines and fees are charged to cover the cost of operation.

RAILROADS.

At present there are five railways in Alaska, owned by private interests, and the sixth line has been acquired by the Government, and hence is public property.

The White Pass and Yukon route runs through American territory from Skagway to the summit of White Pass, 20 miles distant, and continues thence through Canadian territory to White Horse, 110 miles from Skagway.

A line was built for a distance of 70 miles from Seward toward Turnagain Arm, and was first known as the Alaska Central, later as the Alaska Northern. This line has now been purchased by the Government in the expectation that it will be extended through the Matanuska and Susitna Valleys and eventually to Fairbanks, in the Tanana Valley. A branch line will be built to the Matanuska coal fields.

A railway known as the Copper River & Northwestern has been built from Cordova on Prince William Sound to the copper mines at Kennecott. It is 197 miles in length.

A railway extends from Nome into the mining fields for a distance of 75 miles, and still another line has been built from Fair-

banks to Chatanika, where it serves the principal mining districts, for a distance of 45 miles. Still another line has been built from Yakutat for a distance of 20 miles, wholly for the purpose of tapping the salmon streams and for the conveyance of salmon to the fish cannery at Yakutat.

SCHOOLS.

The school system of Alaska comprises three classes of schools: First, schools in incorporated towns, which are supported by the respective municipalities; second, schools for children of white and mixed blood, outside of incorporated towns; third, schools for natives. Of the second class there are 27, and during the past year they had 38 teachers, with a total of 941 pupils. These schools, also known as "Nelson" schools because the bill establishing them was introduced by Senator Nelson, of Minnesota, are supported by certain Territorial funds. The native schools are supported by appropriations from Congress and are under the supervision of the Commissioner of Education in Washington, D. C.

GAME LAWS.

Homesteaders in Alaska will need information on the game laws of the Territory. They will constantly come in touch with these laws, and for their benefit the following is copied from Circular No. 3, issued by the governor of Alaska June, 1914:

Text of the act (in part).

From and after the passage of this act the wanton destruction of wild game animals or wild birds, except eagles, ravens, and cormorants, the destruction of nests and eggs of such birds, or the killing of any wild birds other than game birds, except eagles, for the purpose of selling the same or the skins or any part thereof, except as hereinafter provided, is hereby prohibited.

Game defined.—The term "game animals" shall include deer, moose, caribou, mountain sheep, mountain goats, brown bear, sea lions, and walrus. The term "game birds" shall include waterfowl, commonly known as ducks, geese, brant, and swans; shore birds, commonly known as plover, snipe, and curlew, and the several species of grouse and ptarmigan.

Exemptions.—Nothing in this act shall affect any law now in force in Alaska relating to the fur seal, sea otter, or any fur-bearing animal or prevent the killing of any game animal or bird for food or clothing at any time by natives, or by miners or explorers, when in need of food; but the game animals or birds so killed during close season shall not be shipped or sold.

SEC. 2. Season.—That it shall be unlawful for any person in Alaska to kill any wild game animals or birds, except during the season hereinafter provided; north of latitude sixty-two degrees, brown bear may be killed at any time; moose, caribou, sheep, walrus, and sea lions from August first to December tenth, both inclusive; south of latitude sixty-two degrees, moose, caribou, and mountain sheep from August twentieth to December thirty-first, both inclusive; brown bear from October first to July first, both inclusive; deer and mountain

goats from April first to February first, both inclusive; grouse, ptarmigan, shore birds, and waterfowl from September first to March first, both inclusive [see Regulation No. 1]: *Provided*, That no caribou shall be killed on the Kenai Peninsula before August twentieth, nineteen hundred and twelve: *And provided further*, That the Secretary of Agriculture is hereby authorized, whenever he shall deem it necessary for the preservation of game animals or birds, to make and publish rules and regulations prohibiting the sale of any game in any locality, modifying the close seasons herein before established, providing different close seasons for different parts of Alaska, placing further restrictions and limitations on the killing of such animals or birds in any given locality, or prohibiting killing entirely for a period not exceeding two years in such locality.

SEC. 3. *Number*.—That it shall be unlawful for any person to kill any female or yearling moose or for any one person to kill in any one year more than the number specified of each of the following animals: Two moose, one walrus or sea lion, three caribou, three mountain sheep, three brown bear, or to kill or have in his possession in any one day more than twenty-five grouse or ptarmigan, or twenty-five shore birds or waterfowl.

* * * * *

SEC. 4. *Sale*.—That it shall be unlawful for any person or persons at any time to sell or offer for sale any hides, skins, or heads of any game animals or game birds in Alaska, or to sell, offer for sale, or purchase, or offer to purchase, any game animals or game birds, or parts thereof, during the time when the killing of such animals or birds is prohibited: *Provided*, That it shall be lawful for dealers having in possession game animals or game birds legally killed during the open season to dispose of the same within fifteen days after the close of said season.

SEC. 5. *Licenses*.—That it shall be unlawful for any nonresident of Alaska to hunt any of the game animals protected by this act, except deer and goats, without first obtaining a hunting license, or to hunt on the Kenai Peninsula without a registered guide, and such license shall not be transferable and shall be valid only during the calendar year in which issued. Each applicant shall pay a fee of one hundred dollars for such license, unless he be a citizen of the United States, in which case he shall pay a fee of fifty dollars. Each license shall be accompanied by coupons authorizing the shipment of two moose if killed north of latitude sixty-two degrees; four deer, three caribou, three mountain sheep, three goats, and three brown bear, or any part of said animals, but no more of any one kind.

A resident of Alaska desiring to export heads or trophies of any of the game animals mentioned in this act shall first obtain a shipping license, for which he shall pay a fee of forty dollars, permitting the shipment of heads or trophies of one moose, if killed north of latitude sixty-two degrees, four deer, two caribou, two sheep, two goats, and two brown bear, but no more of any one kind; or a shipping license, for which he shall pay a fee of ten dollars, permitting the shipment of a single head or trophy of caribou or sheep; or a shipping license, for which he shall pay a fee of five dollars, permitting the shipment of a single head or trophy of any goat, deer, or brown bear. Any person wishing to ship moose killed south of latitude sixty-two degrees must first obtain a special shipping license, for which he shall pay a fee of one hundred and fifty dollars, permitting the shipment of one moose, or any part thereof. Not more than one general license and two special moose licenses shall be issued to any one person in one year: *Provided*, That before any trophy shall be shipped from Alaska under the provisions of this act the person desiring to make such shipment shall first make and file with the customs office at

the port where such shipment is to be made an affidavit to the effect that he has not violated any of the provisions of this act; that the trophy which he desires to ship has not been bought or purchased and has not been sold and is not being shipped for the purpose of being sold, and that he is the owner of the trophy which he desires to ship, and if the trophy is that of moose, whether the animal from which it was taken was killed north or south of latitude sixty-two degrees.

* * * * *

SEC. 6. That it shall be unlawful for any persons, firm, or corporation, or their officers or agents, to deliver to any common carrier, or for the owner, agent, or master of any vessel, or for any other person to receive for shipment or have in possession with intent to ship out of Alaska, any wild birds, except eagles, or parts thereof, or any heads, hides, or carcasses of brown bear, caribou, deer, moose, mountain sheep, or mountain goats, or parts thereof unless said heads, hides, or carcasses are accompanied by the required license or coupon and by a copy of the affidavit required by section 5 of this act: *Provided*, That nothing in this act shall be construed to prevent the collection of specimens for scientific purposes, the capture or shipment of live animals and birds for exhibition or propagation, or the export from Alaska of specimens under permit from the Secretary of Agriculture, and under such restrictions and limitations as he may prescribe and publish.

* * * * *

SEC. 7. *Penalties.*—That any person violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall forfeit to the United States all game or birds in his possession, and all guns, traps, nets, or boats used in killing or capturing said game or birds, and shall be punished for each offense by a fine of not more than two hundred dollars or imprisonment not more than three months, or by both such fine and imprisonment, in the discretion of the court. Any person making any false or untrue statements in any affidavit required by this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall forfeit to the United States all trophies in his possession, and shall be punished by a fine in any sum not more than two hundred dollars or imprisonment not more than three months, or by both such fine and imprisonment, in the discretion of the court.

Enforcement.—It is hereby made the duty of all marshals and deputy marshals, collectors or deputy collectors of customs, all officers of revenue cutters, and all game wardens to assist in the enforcement of this act. Any marshal, deputy marshal, or warden in or out of Alaska may arrest, without warrant, any person found violating any of the provisions of this act or any of the regulations herein provided, and may seize any game, birds, or hides, and any traps, nets, guns, boats, or other paraphernalia used in the capture of such game or birds and found in the possession of said person in or out of Alaska, and any collector or deputy collector of customs, or warden, or licensed guide, or any person authorized in writing by a marshal shall have the power above provided to arrest persons found violating this act or said regulations and seize said property without warrant to keep and deliver the same to a marshal or a deputy marshal. It shall be the duty of the Secretary of the Treasury, upon request of the governor or Secretary of Agriculture, to aid in carrying out the provisions of this act.

* * * * *

Approved May 11, 1908 (35 Stat., pt. 1, pp. 102-105; Comp. Laws of Alaska, 1913, secs. 330-337).

Amendment.

That from and after the passage of this act it shall be lawful to kill grouse, ptarmigan, shore birds, and waterfowl from September first to March first, both inclusive, anywhere in the Territory of Alaska.

Approved March 4, 1911 (36 Stat., 1360).

Regulations issued by the Secretary of Agriculture for the protection of deer, moose, caribou, sheep, and mountain goats in Alaska.

[As amended June 30, 1915.]

REGULATION 1. *Open season for deer.*—The season for killing deer in southeastern Alaska is hereby limited to the period from August 15 to November 1, both inclusive.

REGULATION 2. *Limits.*—The number of deer killed by any one person during the open season in southeastern Alaska is hereby limited to three.

REGULATION 3. *Sale.*—The sale of deer carcasses in southern Alaska is hereby suspended until August 1, 1916.

REGULATION 4. *Killing deer on certain islands.*—The killing of deer on Kodiak Island and Long Island and the killing of deer on the following islands in southeastern Alaska: Duke Island, near Dixon Inlet; Gravina Island, near Ketchikan; Kruzof Island, west of Sitka; Suemez Island, near Klawak; and Zarembo Island, near Wrangell, is hereby prohibited until August 1, 1916.

REGULATION 5. *Kenai Peninsula.*—The killing of caribou on the Kenai Peninsula is hereby prohibited until August 1, 1916.

The shipment of carcasses of moose and sheep for sale, from Seward or other points on the Kenai Peninsula, is hereby prohibited, and no carcasses of said animals shall be accepted for shipment to other points in Alaska unless accompanied by affidavit of the owner that they were not purchased and are not intended for sale.

REGULATION 6. *Open season for mountain goats.*—The season for killing mountain goats in southeastern Alaska is hereby limited to the period from August 1 to February 1, both inclusive.

The regulations of July 1, 1912, December 9, 1912, and July 23, 1913, for the protection of game in Alaska are hereby revoked, effective August 1, 1915.

D. F. HOUSTON,

Secretary of Agriculture.

Copies of the game laws and regulations in detail may be had from the governor of Alaska, Juneau, Alaska. The foregoing is sufficient for the guidance of settlers.

FISHERIES.

There are numerous salmon canneries along the Alaskan coast, the total output from which amounts annually to about \$15,000,000. The agricultural interests are not affected by these canneries, however. The majority of the workers are brought from San Francisco, Portland, and Seattle by the owners of the respective canneries, and they also bring their provisions and stores, so that it can scarcely be said that the canneries afford a market for agricultural products. There are also extensive halibut banks along the coast of Alaska.

THE MATANUSKA VALLEY.

For the benefit of those desiring information regarding the agricultural possibilities and problems of the valley of the Matanuska River, through which the Government is constructing a railroad, the following report, by M. D. Snodgrass, of the Kodiak Experiment Station, is appended:

PROBLEMS CONFRONTING EARLY SETTLERS IN THE MATANUSKA VALLEY.

By M. D. SNODGRASS, *Assistant in Charge, Kodiak Station.*

Agricultural development in the Matanuska Valley must necessarily be slow for the first few years, on account of the limited means of the new settlers, lack of roads over which to haul supplies, and the great amount of work necessary in clearing the land of timber and moss.

The real problem confronting the new settlers is in clearing the land. The greater portion of the land in the Matanuska Valley suitable for cultivation is covered with timber, consisting of spruce, pine, birch, cottonwood, quaking aspen, and alder. The timber ranges from 6 to 24 inches in diameter, with from 200 to 300 trees per acre. The larger trees are found among the cottonwood which grows along the creek bottoms. Groves of birch intermingled with spruce grow on the bench land and low hills, while the spruce with a little hemlock is to be found on the steeper hillsides. Ninety per cent of the timber of the region is less than 12 inches in diameter.

Methods of clearing the land at present are various and crude; grubbing with mattock and shovel; cutting some of the roots and lining with rope through a lead block; pulling stumps with homemade stump pullers, and burning during the dry seasons. Slashing the timber and piling and burning gives fair results where the stump puller is available for pulling the stumps after the burning. The most popular method is to get a "ground burn," which is sometimes possible during the month of June. In such cases, the fire burns the moss and fallen timber and often the roots of the standing timber. Many of the trees fall and burn at the time, but most of them fall later, and afford opportunity for a subsequent burning the next season. The roots of the trees are usually very shallow and are bared by the burning. After a second burning the charred timber left on the ground is piled and burned. The burning in the moss sometimes runs for five to six weeks, but does not travel more than a few feet a day. By judicious setting of fires and piling of the fallen timber in such manner as to get a large number of hot fires started, the moss is dried and burns to the soil, and continues to smolder and burn until a single fire sometimes burns over an acre or more of land during the

drier seasons. More often, however, it burns over a few rods only. The hillsides with southern slopes usually are easily burned, as drainage commonly carries off the moisture quickly and the moss dries rapidly.

The soil is left loose and fine where a good ground burn has been secured, is easily worked, retains moisture well, and produces well the first year. Where it is impossible to get a good burn, there is considerable moss and vegetation to contend with. This must be raked together in piles, dried and burned, or hauled off the land before cultivation. The burning on the land is beneficial to the soil, and should be resorted to as a general practice. The depth of the soil on the bench lands and low hill lands generally ranges from 1 to 5 feet of volcanic ash covered with a good dark loam of various depths, overlying glacial gravel deposits, while the soil of the creek and river bottoms is largely of silt deposits. The river bottom lands are not very productive, as the soil is too new, yet there are many small areas of this land that produce considerable grass for hay and pasture.

Crops grown in the Matanuska country during the last few years prove beyond a doubt that great possibilities in agriculture are to be found there. Barley, oats, rye, potatoes, cabbage, turnips, rutabagas, carrots, tomatoes, culiflower, beets, and also most all of the common garden vegetables have been grown successfully. Yields of potatoes as high as 12 tons per acre are reported by the settlers. The potato matures and equals in quality the best grown in the States. The hillside lands are especially suited to potato culture, while the terrace or bench lands are excellent for root crops, vegetable gardening, and grain crops. Native hay is confined to small areas, but pasturage is to be found to a limited extent throughout the timberlands. On an average from 3 to 5 acres of timberland will be required for the pasturing of a horse or cow for 5 months in the year. Along the small creeks the pasturage is much better, and small natural parks afford some hay. Tame grasses and also alsike clover grow readily where seeded in burned-over areas. White clover does well where given a chance to grow. Natural meadows and good pasture lands are to be found near and upon the foothills. General stock raising will of necessity be limited to these areas, but excellent opportunities for the establishing of dairy farms with tame grass pastures are to be found throughout this region.

Wild fruits are abundant in this region, consisting of currants (both red and black), blueberries, salmonberries, raspberries, gooseberries, cranberries, and a number of other edible sorts. The strawberries so common on the coast of southeastern Alaska, are not found here, but wherever planted they grow well. Practically all the cultivated varieties of berries can be grown with profit.

Settlement of the surveyed lands along the Matanuska River has been rapid this season. Practically all the agricultural land in this vicinity was taken by July 1, 1915. Much of the surveyed land lying to the west of the Matanuska Valley, to the north of Knik Arm, and ranging northwest to the Little Susitna has been taken up, and homesteaders are still going into that region. It is practically assured that all the desirable agricultural land will be settled upon as rapidly as the Government railroad penetrates the region. Transportation facilities are the prime factors in the development of this entire region. Wherever transportation by water has been possible the new settlers have pushed ahead into the wilderness and have already begun their clearings and built their homes. In many instances the entire outfits, home furnishings and machinery, have been brought in on pack horses from 5 to 15 miles. Log cabins are to be found springing up in the center of many small clearings, and the settlers are hard at work clearing more ground, planting, hoeing, and building. A number of comfortable log houses and barns are to be found, and a few herds of dairy cows are already taking their place in the new settlements. Hogs and chickens are also finding their places in the new order of things.

The settlers are of the hardy pioneer class, largely of the Scandinavian nationality, who have come into the country with the determination and grit so characteristic of that people. They make use of the building materials at hand, hew the logs, whipsaw enough lumber for finishing and flooring, and sometimes for roofing their cabins. The employment of birch bark for roofing material is in evidence.

The cutting and building of trails and roads has begun, and the country is far more accessible to-day than two years ago. The building of roads throughout this country is the one great need at present. The building of Government roads and trails as feeders to the railroad will materially aid and hasten the agricultural development. During the winter months the settlers work on the trails leading to their homesteads from the established trails, or on the wagon road between Knik and Willow Creek Mines. The trails are usually wide enough to accommodate a single horse, double-end sled, which affords a good temporary method of transportation of freight from tidewater to the remote settlements. The trails will gradually give way to wagon roads, which can readily be built through the greater part of this region at a moderate cost, most of which will be the removal of the timber. Gravels are available for road work through the low hills and bench lands. But few tundra areas are encountered in the region.

Climatic conditions are quite favorable to general farming. The winters are rather long, but are even in temperature and not severe.

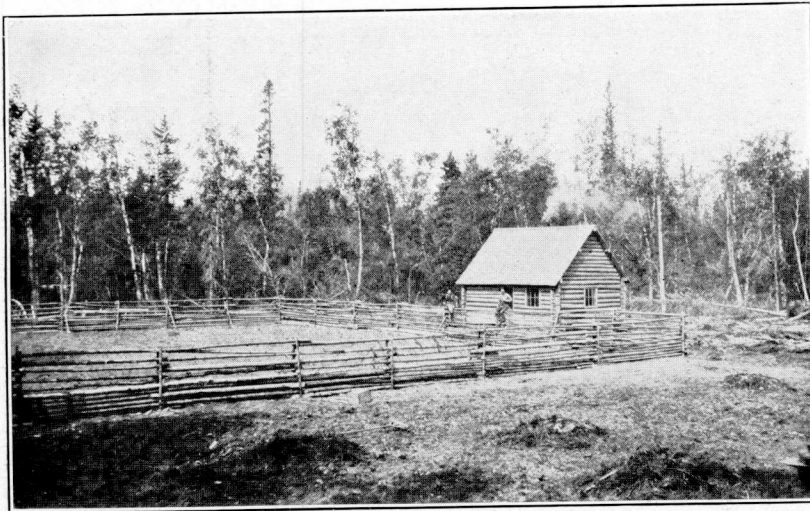


FIG. 1.—A SETTLER'S GARDEN AND CABIN, EIGHT MONTHS' DEVELOPMENT. RABBIT-PROOF FENCES.



FIG. 2.—HOMESTEAD OF AXEL OLSEN. HOMEMADE STUMP PULLER IN FOREGROUND.
HOMESTEADS IN THE MATANUSKA VALLEY.

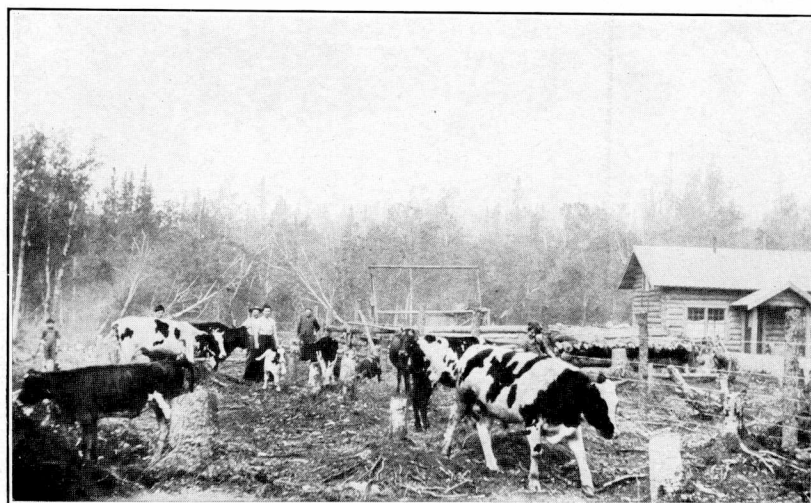


FIG. 1.—HOMESTEAD OF AXEL OLSEN. HOLSTEIN AND JERSEY CATTLE.



FIG. 2.—HOMESTEAD OF AXEL OLSEN. PIG RAISING FOUND POSSIBLE.
STOCK RAISING IN THE MATANUSKA VALLEY.



FIG. 1.—ANCHORAGE, ALASKA, JUNE 8, 1915.



FIG. 2.—HOMESTEAD OF J. J. BUGGE, MATANUSKA, JUNE 9, 1915.

SCENES IN THE MATANUSKA VALLEY.

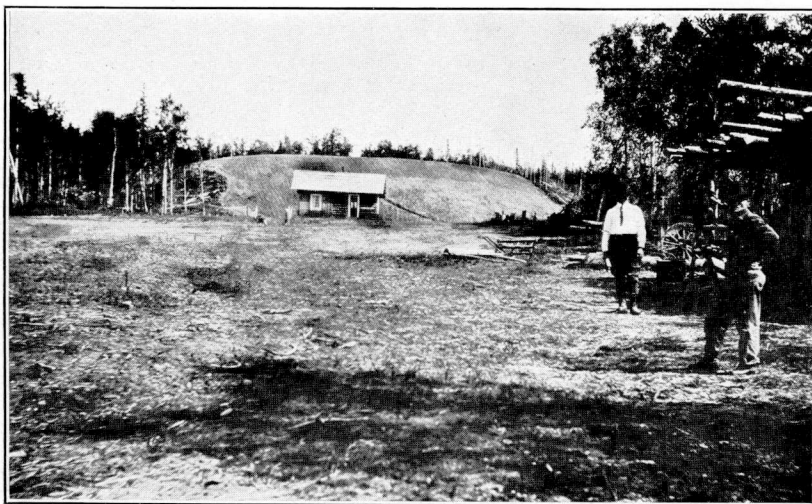


FIG. 1.—HOMESTEAD OF GEORGE NEILAND. RESULT OF GROUND BURN IN REAR OF HOUSE. HAND CLEARING IN FOREGROUND.



FIG. 2.—NEILAND HOMESTEAD. OATS AT LEFT HEADING JUNE 13, 1915.
HOMESTEADS IN THE MATANUSKA VALLEY.

The summers are warm, and favorable growing weather can be expected from May 1 to September 1. The long hours of sunshine during the summer time go far to make up for the seemingly short season. The maximum temperature ranges from 80° to 100° F. from June 15 to August 30. The precipitation is about 30 inches annually, with about 8 inches on the average during June, July, and August. The snowfall ranges from 70 to 80 inches annually.

Under the present homestead laws any person who has not used his homestead rights may take up 320 acres of land (160 acres in the National Forests) and acquire patent thereto by establishing his residence on the land and putting one-eighth of the land under cultivation within three years after taking up the land. On the whole, the amount of land allowed is more than the ordinary man can handle and comply with the laws. One hundred and sixty acres, or half that much, would be sufficient for the average person settling on the land. Without the means to clear the land rapidly and get it under cultivation, the large majority of settlers will find the task a heavy one, and it will greatly retard the fuller development of the country. The larger the percentage of the tillable land that is brought under cultivation and is producing in two or three years, the quicker the work of road building will be carried out, and community life in the country organized, school districts formed, telephone connection established, and all that is desirable for the well-being of country life provided. To continue to take 320 acres, each settler will have more land than he can hope to put under cultivation for many years to come, and he can not sell, lease, or relinquish any portion of his land for a consideration greater than his actual filing fees without laying himself liable to forfeiture of his whole claim until he has proven up on his homestead. This will practically delay the development of the whole region and tie up much valuable productive land from three to five years.

Considerable land suitable for farming is to be found within the national forest about Anchorage, but the depth of the soil is not so great, and the soil is more acid than that found along the Matanuska Valley, the temperature is not so high, and the frosts are reported a little earlier in the fall than in the Matanuska Valley. Within the national forest homesteads not exceeding 160 acres in area may be secured where the land is chiefly valuable for farming. Each tract is examined by the Department of Agriculture before it is opened to filing or settlement is allowed. Applications for land in the national forest should be addressed to the forest supervisor, at Ketchikan, Alaska. The applicant must give the description of the land desired and must certify that he has actually been on the land and believes it to be chiefly valuable for agriculture.

The surveying and opening of the Susitna Valley will afford 5,000 or 6,000 homesteads of 320 acres each.

This country will bear close inspection by those seeking a homestead, and is well worth the time and cost of a tour of inspection. The development must come through those who are willing and able to do hard work, but the establishment of many comfortable homes may reasonably be expected within a few years.

The accompanying illustrations will, it is hoped, give some information regarding the nature of the country contiguous to the railroad now in course of construction by the Government and will show how some settlers are solving the problems of establishing themselves in this region.





MAP SHOWING AGRICULTURAL REGIONS IN ALASKA